

# ABSTRACT OF THE DISCLOSURE

A subordinate low pass filter 21 having characteristics similar to those of a main low pass filter 11 is provided. A signal of a frequency corresponding to a cut-off frequency is supplied from a signal generating circuit 22 to the subordinate LPF 21. A phase difference detecting circuit 23 detects a phase shift amount which is caused when the signal of the cut-off frequency is supplied to the subordinate LPF 21. An error detecting circuit 24 compares a value corresponding to the phase shift amount caused in the subordinate LPF 21 when the signal of the cut-off frequency is supplied with a reference value corresponding to the phase shift amount to be caused in the subordinate LPF 21 at the time of the cut-off frequency on phase characteristics. A comparison output is used as a control signal and the subordinate LPF 21 and main LPF 11 are controlled to have a desired cut-off frequency. By using multipliers of similar constructions as a phase difference detecting circuit 23 and a reference value generating circuit 25, an influence of temperature characteristics and a variation on processes can be cancelled.